What Is Claimed Is:

1. A power supply device, wherein:

a power supply circuit, which comprises a rectifier circuit for rectifying an AC current from a commercial AC power supply and a switching element provided on the output side of the rectifier circuit, is connected to a first primary side winding of a high frequency transformer;

a secondary side DC output circuit, which supplies electric power to a load, is connected to a secondary side winding of the high frequency transformer;

a second primary side winding of the high frequency transformer and a DC power supply circuit that is separate from the power supply circuit are provided with connecting portions that are capable of connecting and disconnecting the second primary side winding and the DC power supply circuit;

a cooling fan for the release to the outside of heat generated within a casing that houses at least the power supply circuit, the first primary side winding, the secondary side DC output circuit, the secondary side winding, and the second primary side winding is detachably mounted in the casing;

a protective member is mounted so as to be displaceable to a removal disabling position located in front of the cooling fan in order to obstruct removal of the cooling fan by abutting against same, and to a removal enabling position that is

retracted from the position in front of the cooling fan in order to allow removal of the cooling fan;

the protective member is constituted so as to be displaceable to the removal enabling position only when a switch provided on the casing is turned OFF in order to switch the cooling fan from ON to OFF, or only when an insertable/removable power supply cable plug that is inserted in an input portion provided in the casing in order to input the AC current from the commercial AC power supply is removed, or only when the switch is turned OFF and the plug is removed;

a stopper member, which obstructs the movement of the protective member to the removal disabling position by abutting against the protective member in a state where the cooling fan is not disposed in a predetermined position in the casing, and which allows the movement of the protective member to the removal disabling position in a state where the cooling fan is disposed in the predetermined position in the casing, is provided.

2. The power supply device according to claim 1, wherein:

a fan cover for covering the cooling fan is detachably provided in the casing, in front of the cooling fan; and

a second stopper member, which serves to obstruct the movement of the protective member to the removal disabling position by abutting against the protective member in a state

where the fan cover is not disposed in a predetermined position of the casing, and which serves to allow the movement of the protective member to the removal disabling position in a state where the cooling fan is disposed in a predetermined position in the casing, is provided.

3. The power supply device according to claim 1 or 2, further comprising:

a first thermal radiation fin for releasing heat generated by circuit constituent parts of the power supply circuit and the secondary side DC output circuit; and

a second thermal radiation fin for releasing heat generated by circuit constituent parts of the DC power supply circuit,

wherein the two thermal radiation fins are brought into a thermally conductive state by being made to contact each other.

4. The power supply device according to claim 1, wherein the DC power supply circuit comprises a switching element that is in sync with a switching element of the power supply circuit or that is operated in accordance with the operating states of the power supply circuit.

5. The power supply device according to claim 1, wherein:

an AC drive unit is constituted by the power supply circuit, the first primary side winding, the secondary side DC output circuit, the secondary side winding, the second primary side winding, and the first thermal radiation fin;

the AC drive unit is housed in the casing;

a DC power supply circuit unit is constituted by the DC power supply circuit and the second thermal radiation fin;

the DC power supply circuit unit is housed in an auxiliary casing that is different from the casing; and

air guide holes, which serve to allow air inside the auxiliary casing to be transferred to the casing by means of the cooling fan, are formed in the auxiliary casing and the casing.

6. The power supply device according to claim 1, wherein the circuit constituent parts are a diode and the switching element.